

**CHEMOSENSITIZING WITH LIPOSOMES
CONTAINING OLIGONUCLEOTIDES**



RELATED APPLICATIONS

[0001] This application is a continuation-in-part of U.S. Serial No. 09/538,241 filed on March 30, 2000 (now USPN 6,359,129), which is a continuation-in-part of U.S. Serial No. 09/354,109, filed July 15, 1999, (now abandoned), which is in turn a divisional of U.S. Serial No. 08/957,327, filed October 24, 1997, (now USPN 6,126,965), which claims benefit of priority to Provisional Application Serial No. 60/041,192, filed March 21, 1997. All of these applications are incorporated by reference in their entirety herein.

**STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH AND
DEVELOPMENT**

[0002] This invention was made with government support under grant numbers CA46641, CA68322, CA58984, CA65012, CA52066, and CA74175 awarded by NIH.

FIELD OF THE INVENTION

[0003] This invention is related to novel methods of sensitizing tumor tissue to therapy, preferably chemotherapy or a combination of chemotherapy and radiotherapy using a cationic liposomal composition containing an oligonucleotides or combination of oligonucleotides that specifically binds to a gene expressed by the tumor tissue.

BACKGROUND OF THE INVENTION

[0004] The use of chemotherapeutics to treat cancer is well established. Examples of chemotherapeutics finding established application in the treatment of cancers include by way of examples tamoxifen, toremifene, cisplatin, methotrexate, adriamycin, to name but a few. Often such chemotherapeutics are utilized in combination, i.e., as cocktails in chemotherapeutic regimens, and often in combination with other types of therapies, e.g., radiation, surgery or antibody-based therapeutics.

[0005] While chemotherapeutics have had success in treating a number of different types of cancers, e.g., some leukemia, breast cancer and prostate cancer, chemotherapy is fraught with problems. For example, chemotherapeutics are often only effective against a limited number of cancers. Also, many chemotherapeutics exhibit toxicity to non-targeted tissue, e.g., they may cause nephrotoxicity. Another prevalent problem with chemotherapy is that